

**OVERCOMING BARRIERS TO ITS --
LESSONS FROM OTHER TECHNOLOGIES**

FINAL TASK G REPORT

PROCEEDINGS OF THE TASK G SYMPOSIUM

by

The Urban Institute

with

**Cambridge Systematics Inc.
Miller, Canfield, Paddock and Stone
MTA-EMCI**

Contract DTFH61-93-C-00025

**UI Project #06351
November 6, 1995**

Table of Contents

MODEL FRANCHISE AGREEMENTS..... 2

Overall Framework and the Final Report 2

Authorizing Legislation 4

Revenues and “Bankable Projects.. 4

Renewals and Contract Termination..... 6

Rights-in-Data and Privacy.. 6

Record Keeping 8

COMPARISON OF FRANCHISING TO OTHER DEPLOYMENT MODELS.. 8

PROCEEDINGS OF THE TASK G SYMPOSIUM

This report summarizes the results of a small, one day symposium held on June 16, 1995 in Washington D.C. as a part of the study being performed by the Urban Institute and its subcontractors (Cambridge Systematics, Inc., Miller, Canfield, Paddock and Stone, and MTA-EMCI, Inc.) for the Federal Highway Administration. The study is entitled, "Overcoming Barriers to ITS - Lessons from Other Technologies." The purpose of the symposium was to provide expert review and comment regarding drafts of the two concluding task reports in order to obtain input regarding the final report for the entire study. The two draft task reports discussed during the symposium were:

- Draft Task E Report. Analysis of Franchises and License Agreements for the Provision of Public Services
- Draft Task F Report. Modular Franchise Agreements for Advanced Traffic Management Systems and Advanced Traveler Information Systems.

Earlier a similar one day symposium was held on March 27, 1995 to discuss the other three task reports:

- Final Task A Report. Institutional Barriers to ATMS/ATIS
- Draft Task B Report. Lessons from Other Technologies
- Draft Task C Report. Models of Public/Private Participation.

The Task D Report summarizes the results of the first symposium.

William A. Hyman of Cambridge Systematics, Inc., who is the Co-Principal Investigator and Nicholas Miller who heads the telecommunications practice of the law firm Miller, Canfield Paddock, and Stone led the symposium discussion. Exhibit 1 lists the symposium participants.

In the morning the team presented the principal findings, conclusions and recommendations from the draft Task E and F Reports. Comments followed. The afternoon focused upon comparing and contrasting franchising with other models of ITS deployment. Copies of the overheads used appear in Exhibit 2 and in the graphics labeled Exhibits 3 and 4.

In general, the participants saw the Task E and F reports as valuable documents that provide a detailed checklist of key issues that need to be addressed in regards to licensing and franchising as well as many other models of deployment. There was agreement that the model franchise agreements need some fine tuning, which could be accomplished through footnotes and minor changes.

Participants saw franchising as one of many different possible models of deployment. Participants supported an institutional framework as possible to different approaches to deployment of ATMS and ATIS, particularly with respect to private sector participation.

The following summarizes the key points made by the symposium participants. We have grouped the key points together by topic.

MODEL FRANCHISE AGREEMENT FOR ATMS/ATIS

Overall Framework and the Final Report

There were a number of comments regarding the overall process of licensing and franchising, the general framework for the model franchise agreements, and the focus of the final report:

There is a need to put the model franchise agreements in context, particularly with respect to a process involving the establishment of authorizing legislation and the development of a procurement process involving a Request for Information (RFI) or a Request for Qualifications (RFQ), and a Request for Proposal. This could be done by referencing the Task F report and by other means.

The procurement process and institutional framework needs to appeal to the private sector. There is considerable merit in a broad solicitation process that requests public/private partnership proposals, such as Minnesota's, Washington's, and Virginia's.

The franchise documents create a closed entry model (i.e. entry into the market is restricted to the franchisee, who is thus a monopolist), but it does not necessarily have to be that way. The national trend is toward open-entry models. The problem is how to create revenue streams that can support private investment, and an open entry model makes it more difficult.

The chart used to describe the modules of the model ATMS/ATIS franchise agreement in the presentation (Exhibit 3) should be included in the introduction to the model franchise agreement.

Perhaps the model franchise agreement, which pertains only to ATIS, should be modular like the model ATMS/ATIS agreement and reflect different assumptions about the potential for cost recovery and profitability of ATIS. Indeed there is a wrong assumption implicit in the ATIS franchise agreement that ATIS is profitable. ATIS may require a public subsidy or may be a loss-leading component of a larger ITS system. One way to address the issue of cost recovery or profitability of ATIS is to refer to the model ATMS/ATIS modular franchise agreement within the model ATIS franchise agreement.

The model ATMS/ATIS franchise agreement needs some notation in the section defining ATMS that allows one to refine the scope of ATMS based on the circumstances of the specific project or deal.

The definition section also needs to draw a clear line between public police power and traffic operations management. We need to make sure the agreement does not inadvertently give first rights to the franchisee to provide certain services, for example to manage traffic. The public sector cannot relinquish its authority and obligation to carry out certain public roles, even when it contracts for services.

Leakage of control and exclusivity is a major long run problem. If we want to give exclusive rights to a franchisee, what does the public actually control that it can give away? For example, AT&T's exclusive right to provide long distance telephone service did not mean a lot when

MCI was able to obtain rights to provide private service between private companies and thus got a toehold in the long distance telephone market.

In the model franchise agreement for ATMS/ATIS there is an annual operations and maintenance plan for ATMS, but there is not an annual operations and maintenance plan for ATIS within the same document.

The model franchise agreement for ATIS needs an introduction like the model franchise agreement for ATMS/ATIS (Note: A draft introduction was distributed at the symposium in anticipation of and response to this comment).

In both model agreements the presumption should be that Electronic Toll and Traffic Management (ETTM) is not part of the package. Clauses for ETTM should be included only in exceptional instances where it would be part of the ATMS/ATIS system.

A comment was made that both model agreements have language too much like a Cable TV franchise agreement, and that a review of the language to make it more in tune with the culture of DOTs would be desirable. However, a participant countered by saying that one should not replace telecommunication language with DOT-like language. There is a need to retain specifications pertinent not only to DOTs but also telecommunications.

A concern was expressed that the model franchise agreements should not necessarily require compliance with national standards, although most agencies would deem compliance with national standards desirable. What if a state like Colorado wants proprietary standards as opposed to the standards developed as a part of National System Architecture. Similarly a state, region or locality might want a closed architecture rather than an open one. The possibility of closed standards and architecture could be addressed in a footnote.

It was suggested that the model franchise agreements flag in some way new or innovative ways of doing business. This could be done in footnotes or the introductions.

The focus of deployment and the supporting institutional framework should be blending/integrating/coordinating existing technology. The systems and their supporting institutional framework should be as simple as possible to understand.

The theme of the final report should be to encourage catalytic action and engage the private sector as deployment transitions from ATMS to ATIS. Currently ATMS data is too narrow a base for generating revenues to support ATMS/ATIS deployment.

The final report should be both strategic and opportunistic in tone -- strategic in order to address the key long term requirements for full ATMS/ATIS deployment, and opportunistic in order to take advantage of funding and windows for action that are practical and appealing to states, MPOs and localities.

The major added value of our study, as articulated by one participant, and which should be the focus of the final report is as follows:

- Lessons from other technologies
- Alternative models of public/private sector participation.

- Model franchise agreements.

In addition the final report should suggest the path(s) of a solicitation process most conducive to ATMS/ATIS deployment. It is important be open and flexible as to where things might head.

It was suggested that the Task C report and perhaps the final report should include a decision tree that indicates under which circumstances various models of deployment are most appropriate.

One participant, who was present at the previous symposium, reiterated his desire to see in the final report some lessons learned from failures of institutional approaches to deployment of other technologies.

Authorizing Legislation

There is a need to underscore the importance of authorizing legislation, especially for public/private partnerships. Some states are barred from joint ownership with the private sector, and there are other impediments to public/private participation.

The development of model franchise agreements is insufficient as far as a model franchising process. Model legislation, joint powers authorities, etc., also need to be developed to support the process.

A question was raised whether it might not be practical to go through the process of granting franchises, and then go to the legislature to obtain the authorizing legislation. By doing so it might compel the legislature to take the process seriously and that political pressure could be brought to bear to permit franchising to work.

One person responded that in Wisconsin, if you went to the legislature first, it would take forever to make the requisite changes. One needs to create support for franchising in another sector besides transportation, i.e. the electric utility industry which has already been given franchises and is regulated by the Wisconsin Public Service Commission. With this kind of support it is possible to do the spade work with the legislature to implement a similar process for ITS.

Revenues and “Bankable” Projects

There needs to be a way for the franchisee to share revenues with the franchisor. For example, Minnesota set up a revolving fund. Wisconsin had considered setting up an independent foundation to permit this to occur.

One person argued that state DOT's do not want additional funding. They want free services provided by the private sector. Revenues received often end up in a general fund or go to non-transportation purposes, such as health care and education. Another person rebutted that their agency wanted cash and not free services. With cash they can choose what they want to buy.

The model franchise agreement should include a section that allows for the provision of potential revenue generating services that are in addition to ATMS/ATIS services being furnished, for example installation of fiber optic lines, construction of restaurants/rest areas along toll roads, etc. It was noted in response that the model franchise agreement does include

provisions for this, although perhaps the section needs to be expanded or made more prominent.

There needs to be more discussion in the model franchise agreement about the ability to be “bankable,” i.e. being able to tap the private or public sector capital markets and satisfy all lender requirements. In fact, there is no section in the franchise agreement dealing with finance.

The bankability of a project is pertinent not only to original financing but also to renewals. The value of the franchise needs to be determined periodically in case there is a transfer of the franchise and it becomes necessary for the new franchisee to pay off the prior one.

There are four factors that affect “bankability;”

1. Latitude allowed under the authorizing legislation
2. Degree of agency financing or guarantees
3. Revenues
4. Degree of exclusivity.

If you have a high degree of all of these factors, then the project has low risk and is highly bankable.

For telecommunication projects in Latin America, it was pointed out that investment hurdles to compensate for risk are as follows:

30-35% return on equity for telecommunication projects in general
20-25% return on equity for cable TV franchises.

It was further pointed out that for California AB 680 toll road projects the return on total investment ranged from about 14 to 20 percent depending upon the specific risk factors affecting each of the four projects. However, the return on equity was many times greater.

In the franchise agreement, if you state gross revenue requirements you will scare off potential private providers. It would be better to have people propose in response to an RFP what gross revenues they might require.

Another issue raised pertained to how partnerships share gross revenues and profits.

Revenues should be tied to specific projects and not to the franchise or the larger overall project of which a specific project is a part.

What if federal funds are involved? Do they have to be paid back in certain circumstances, for example when converting free roads to toll roads? In putting together the financing for a project, one cannot co-mingle federal funds if you want to avoid federal requirements. For example the federal government has different intellectual property rights than the states. It is desirable to have some receiving mechanism that is a separate pot for federal funds--- for example a foundation or non-profit corporation. You can also subdivide the procurement process, where one part has federal involvement and another does not.

One person suggested that in the franchise agreement it would be better to help the private firm on the expenditure side (i.e. provide help in reducing costs) as opposed to the revenue side.

Renewals and Contract Termination

The renewal rights of the government was covered in the model franchise agreement. What about the renewal rights of the franchisee?

Why shouldn't the franchise fee, expressed as a percent of revenues, not drop if costs/profits are covered before the end of the franchise term? One person responded that the bank or lender wants to see the terms and conditions firmly established at the outset and would be less supportive if the terms of the agreement could be renegotiated periodically.

Agencies are subject to lawsuits for violation of the contractual terms of the franchise agreement when political changes undermine such agreements.

You do not necessarily want to revoke a service provider's franchise for non-performance.

One should consider the issue of exclusivity of a long term franchise (say 40 years) in light of the fact that after 15 years at any reasonable discount rate the net present value of added revenue is negligible. In other words, elimination of exclusivity at the time of renewal is reasonable on a number of grounds including providing a reasonable return on investment. After a certain point in time extra revenues have almost no present value.

What if the franchisee is going to be replaced instead of there being a renewal? How does this affect the renewal terms? What if you want to replace the operator? There will be a cry to put the franchise out to bid as opposed to renewal. You may need to impute a value of the franchise at the end of the renewal term so it can be sold. Usually the initial franchisee wants to sell the franchise.

The model franchise agreement needs to include a right of renewal, and there needs to be a determination of the cash value of the franchise taking into account both depreciated book value and intangible assets.

One needs to account for the possibility of an adversary relationship between the franchisor and franchisee during the initial term of the agreement. Should there be an escrow account for source code and other similar protections?

Rights-in-Data and Privacy

The conditions under which access to data can occur must be clearly spelled out. Across the different service options, who owns the data? It is important to determine whether information is in the public or private domain.

There is a difference between data and information. Public agencies are the infrastructure managers and the data they collect/generate is in the public domain. But when somebody adds value, it becomes information and a commodity that can be sold. For example in the Indiana-Chicago-Milwaukee Corridor, the participating transportation agencies plan to put data in one pot and then value-added resellers can use it.

Many public agencies claim that because data is generated with public funds, the data is theirs. SmartRoute Systems says traffic data their company generates is theirs, which includes repackaged or reformatted data from the public sector. In the ATIS systems which SmartRoute Systems is implementing, this company typically provides most of the traffic surveillance on the road network since only a small portion of traffic data comes from the public sector at this point in time.

Does the public sector, in a case like TravInfo, by eliminating barriers to entry and providing free traffic data, undermine the possibility of profitable markets for the private sector?

Can you give a franchise to collect and disseminate information? Yes. States and localities are like private firms with rights to intellectual property. Compilers of data can be protected under copyright law. However some states have laws that say anything collected with public funds is in the public domain. In addition there exist state laws similar to the Freedom of Information Act, which the press and others may lean upon to obtain free access.

The question arose as to whether a state can enter into a contract with a private entity to get out from under these open disclosure requirements. The problem is that certain basic data is being collected from infrastructure which has been paid for with public funds.

One approach to providing some degree of exclusivity but at the same time respecting open access laws and regulations is to let the franchisee have real time access to traffic data, whereas others can also get it but not in real time. There is extra market value in the real time data compared to data which is not.

What about Electronic Toll and Traffic Management (ETTM)? Information that can be traced to individuals raises serious privacy issues. If ETTM data is gathered and stored by the public sector, it poses great difficulties in ensuring the protection of information. Note that if the information is gathered and held by the private sector, the private sector can exploit its inherent value in the market place more easily. If you use electronic funds transfer, including credit card transactions, then you must comply with all the privacy protections and regulations of the banking system.

Guidelines are needed for privacy protection where ETTM is involved and this needs to be addressed in the ATMS/ATIS model franchise agreement. There should be clauses to allow people to use ETTM on a cash basis, say with a debit card. In fact the standard transaction should be cash. A condition of using a credit card should be acceptance on the part of the buyer of the additional risk of reduced privacy protection.

In fact, privacy issues pertain to all information that can be identified with an individual:

- Vehicle as probe
- Closed circuit television
- High resolution remote sensing (e.g. satellite surveillance)
- ETTM
- etc.

It was suggested that the privacy principles developed by ITS America should be examined.

Record Keeping

The approach to record keeping in the model franchise agreements is too strong. It is overly detailed and burdensome and would scare off the private sector.

Why not set up a separate corporation so accounts can be isolated?

Limit record keeping to the project, and provide proprietary protection.

COMPARISON OF FRANCHISING TO OTHER DEPLOYMENT MODELS

After discussion of the model franchise agreements the symposium focused on a comparison of franchising with other models of deployment. The intent was to explore whether other models of public and/or private participation were more conducive to full deployment and to determine what role franchising might play within the context of some of these models.

To set the stage for the discussion, it was suggested that deployment of ATMS/ATIS would occur in three Phases:

- Phase I. This is the time period prior to the development of the ITS National System Architecture and would be characterized by early deployment activities involving government contracting and private provision.
- Phase II: This is the period in the near term after the development and adoption of an ITS National System Architecture. It would also be characterized primarily by government contracting and private provision.
- Phase III: This represents the long term after the development of the ITS National System Architecture, and is the time period in which full deployment would be expected to occur. The question is what deployment models would allow full deployment to occur.

To further set the stage for discussion, a partial set of requirements for full deployment of ATMS/ATIS was posed. Then each of the symposium participants provided additional suggestions regarding their view of requirements for full deployment. The list of requirements the group developed was as follows:

- Nearly all jurisdictions would be served by ATMS in a manner that preserves local control unless local jurisdictions voluntary cede control to a higher authority
- All forms of traveler information would be available in all jurisdictions for trip planning and people on the move
- A traffic operations center would be deployed with backup
- Mutual leveraging of public and private funds would have occurred

- Use of the transportation infrastructure (including highways, communications, and utilities) would be optimized
- Full deployment would be different in each community since each has different requirements for full deployment
- Society would experience an increase in net present worth (overall it would be better off) and there would be a distribution of benefits and costs that is sufficiently equitable
- Dedicated revenue streams would exist
- There would be acceptance by the voting public
- Advanced systems for all modes would be integrated
- The overall system would be operated in a systems environment so as to optimize system performance and management
- The system would optimize capacity and use of the transportation system with information technology
- There would be interoperability across jurisdictions
- Private input would be maximized
- There would be market saturation of technology in autos and trucks
- ATMS/ATIS would be deployed on all major regional corridors in rural areas
- It would be a flexible system, able to accommodate the fact that different areas develop in different ways
- Full deployment would allow for cross subsidy between urban and rural areas
- Implementation would have allowed opportunities for private sector profits commensurate with risk
- The system would have been installed cost-effectively within a limited budget.

There was no attempt by symposium participants to rationalize these attributes of a fully deployed ATMS/ ATIS system. Rather the group used them to test to what extent different models of deployment might satisfy these.

At this juncture it was pointed out that one of the main reasons for looking at franchising is it is a way to permit use of publicly owned rights-of-way. The question is can other mechanisms satisfy this need equally well such as easements, permits, concessions, leases and grants-of-title. Certainly these other methods could be used, but none of them could potentially satisfy as many requirements as the model ATMS/ATIS franchise agreement. However, even a

sophisticated franchise agreement cannot satisfy all of the requirements such as those listed above.

There are also alternative approaches for traveler information providers to gain access to basic traffic data generated by an ATIS. Among these are private provision, government contracting, licensing, free distribution and sale. But none of these can satisfy the requirements for full deployment.

In addition there are alternative approaches to generating revenue streams and covering costs. These include selling of services, contracting for services (paid for by tax revenues), obtaining advertising sponsors, selling dark fiber, conducting auctions, and collecting tolls electronically. These approaches cannot in and of themselves satisfy most of the requirements.

At this point there was some discussion of the potential ability of pure private provision to result in full deployment of ATIS. The example of SmartTraveler was discussed. SmartTraveler is being implemented by a private company, SmartRoute Systems, in the Boston area with federal assistance under an operational test. The operational test was continued for a second phase after an intense evaluation. Forty-nine percent who used the service changed their travel plans. Ninety-eight percent said they would use the service again. The Boston SmartTraveler **System** is now on the verge of breaking even. This operational test is designed to be a proof of concept -- that travelers are willing to pay for an advanced traveler information system. If travelers are willing to pay enough, an ATIS can be privately financed and implemented.

SmartRoute Systems provides surveillance for the Boston area for a total of \$2 million. When SmartRoute Systems enters into an agreement with the government, it obtains the right to resell surveillance information. The company asks the government to purchase public policy products, which are designed to meet specific government needs. SmartRoute Systems asks for an upfront fee to amortize costs over a period of time. It sells to paging services, metro traffic control, employers, parking garages, etc. As it become more successful, the company expects the costs of public policy services will go down and that such services will eventually be provided for free. The problem at the moment is the market is not mature.

Discussants remarked that in general there is a need for catalyst contracts to demonstrate proof of concept and economic feasibility. Seed money for SmartTraveler makes sense and needs to be applied to Highway Advisory Radio, Variable Message Signs, and other elements of ATMS from which there can be significant public benefits. But there needs to be a shift in orientation from wholesale to retail provision of traffic management services Other ITS user services are potential revenue generators such as mayday services. Discussants noted there is a need to capitalize on any revenue generator possible such as restaurants on the interstate and toll roads, and the installation and selling of dark fiber. The going rate for dark fiber is \$120 per month per mile. In fact you can sell any type of bandwidth -- optical fiber, microwave, cellular, etc.

Then a number of frameworks were presented that have some potential for satisfying the requirements for full deployment.

The first is a competitive joint venture structured so as to allow the joint ownership of an ATIS data base but at the same time permitting competitive provision of advanced traveler information services. The competitive joint venture is illustrated in Exhibit 4. The owners of traffic data could be public agencies in specific jurisdictions. Owners could also be franchisees, or they could be providers of services for specific modes of transportation. Additional ATIS

data base owners might be parking lots, hotels, restaurants, and providers of electronic yellow pages. Revenue from the sale of ATIS data could be used to partially and perhaps completely finance the construction of ATMS in some jurisdictions. Among the key characteristics of the competitive joint venture is it preserves local control and allows for easy expansion of the geographic areas which generate traffic data, perhaps through a pattern of franchising not unlike that which occurred in the Cable TV industry. Examples from other industries were given to illustrate the concept of a competitive joint venture. It was noted that the concept evolved in the electric utility industry as a result of a desire to find a way to foster competition under conditions which normally would result in natural monopoly (i.e. there exists significant economies of scale and average costs are declining). Another example given was that of a printing press jointly owned by morning and evening newspapers which compete with each other in the same market. The airline reservation system and the nationwide sharing of telephone numbers by Regional Bell Operating Companies were cited as having similar characteristics to a competitive joint venture.

It was suggested that this deployment model might be better termed a cooperative joint venture and that perhaps it is similar to the intermediary structure used in Help Inc., which is actually a fundamentally different approach.

A second model potentially consistent with full deployment was described as follows:

- ATMS deployed mainly through government contract, and as much is deployed as taxpayers are willing to pay
- ATMS traffic data is free to everyone
- The ATIS data base could be privately or publicly built and managed
- Private sector provides value-added ATIS

It was pointed out that this is a deployment model suitable to a region where there are ample public funds available such as in Houston.

A third model potentially consistent with full deployment is the same as the above with the exception of the following:

- Government licenses the use of traffic data for a fee or makes it available for free depending upon the jurisdiction involved
- Where government licenses the use of traffic data for a fee, ATMS deployment costs can be partially or completely offset depending upon what consumers are willing to pay. Taxpayers need to cover the rest of the costs.

It was suggested that this approach is not unlike that being pursued for the Atlanta region.

A fourth model potentially consistent with full deployment and briefly described is the electric utility model:

- Well defined services areas (franchises)

- The sum of capital, operating and maintenance costs is minimized
- Demand management is an integral part
- Rates charged to consumers and rate-of-return regulated by a Public Utility Commission or equivalent transportation agency
- Integration of energy, environmental and transportation management.

There was not enough time left in during the symposium to fully discuss the ability of these three other approaches to satisfy the requirements listed for full deployment. But there seemed to be implicit agreement that all these frameworks full or close-to-full deployment were reasonable options.

ROSTER
June 16, 1995 Symposium
830 A.M. - 430 P.M.
Overcoming Barriers to IVHS - Lessons from other Technologies
Room 4236, NASSIF Building
U.S. Department of Transportation
400 Seventh Street, S.W.
Washington, D.C

Scott Carson
RADCO Planning District Commission
P.O. Box 863
Fredericksburg, VA 22404
(703)373-2890

Philip H. DeCabooter
Chief ITS Engineer
Bureau of Highway Engineering
Wisconsin Dept. of Transportation
4802 Sheboygan Avenue
P.O. Box 7916
Madison, WI 53707
(608)267-0452
(608)264-6667 - Fax

Don J. Dempsey, Vice President
L.S. Gallegos & Associates, Inc.
9137 E. Mineral Circle, Suite 220
Englewood, CO 80112
(303)790-8474
(303)790-8477 - Fax

~
Tom Horan
Claremont Graduate School
160 E. Tenth Street
Claremont, CA 91711
(909)621-8581

William Hyman
Cambridge Systematics, Inc.
5225 Wisconsin Avenue, N.W., Suite 409
Washington, DC 20016
(202)466-5542
(202)466-5548 - Fax

Robert S. Jaffe, Ph.D.
Program Manager, IVHS Architecture
Loral Federal Systems
Rt. 134, Kitchewan Road
P.O. Box 218
Yorktown Heights, NY 10598
(914)945-3763
(914)248-5840 - Fax

John P. Kiljan
Colorado Dept. of Transportation
4201 E. Arkansas, Room A100
Denver, CO 80222
(303)757-9508
(303)757-9974 - Fax

~
Charles McManus
New Jersey Highway Authority
P.O. Box 5050
Rt. 40 & 9, King Georges Road
Woodbridge, NJ 07095
(908)442-8600
(908)293-1110 - Fax

Nick Miller
Miller, Canfield, Paddock, and Stone
1225 19th Street, NW, Suite 400
Washington, DC 20036
(202)785-0600

Craig Roberts
ITS America
400 Virginia Avenue, SW, Suite 800
Washington, DC 20024-2730
(202)484-4847
(202)484-3483 - Fax

James Saklas
FHWA - HPP-12
400 Seventh Street, SW, Rm. 3324
Washington, DC 20590
(202)366-9254

Sheldon Strickland
2512 W. Meredith Drive
Vienna, VA 22181
(703)281-6510
(703)281-6709 - Fax

Bill Twomey
SmartRoute Systems
141 Portland Street, Suite 8100
Cambridge, MA 02139
(617)494-8100
(617-)494-5271- Fax

OVERCOMING BARRIERS TO IVHS LESSONS FROM OTHER TECHNOLOGIES

The Urban Institute

Cambridge Systematics, Inc.

Miller, Canfield, Paddock and Stone

MTA/EMCI

 Cambridge Systematics, Inc./Miller, Canfield, Paddock and Stone

Agenda

- . Morning
 - Welcome and Introductions
- . Task E Report on Franchising and Licensing
- Task F Report on Model Franchise Agreements
- **Afternoon**
 - . Review of Proposed Final Report outline
 - Discussion of Franchising, competition, access to rights-of-way

 Cambridge Systematics, Inc./Miller, Canfield, Paddock and Stone

Overview of Task E Report – Analysis of Franchises and License Agreements

- **Lessons Learned:**
 - Cable Television Franchises
 - Cellular Telephone Franchise/Licensing
 - California Toll Road Franchise
- . Conclusions and Recommendations
- . Policy Framework for Model Franchise Agreements

 Cambridge Systematics, Inc./Miller, Canfield, Paddock and Stone

Cable Television Franchise

 Cambridge Systematics, Inc. / Miller, Caulfield, Padgett and Stone

Establishment and Evolution

- . Early Deployment
- Basis for Franchise fees
- . Requirements for Performance
- . Franchise Term
- . Changing Partners

 Cambridge Systematics, Inc. / Miller, Caulfield, Padgett and Stone

Establishment and Evolution (cont.)

- . Competitive Franchising
- . State Cable TV Regulatory Bodies
- Municipal Ownership

 Cambridge Systematics, Inc. / Miller, Caulfield, Padgett and Stone

Key Franchise Components and Their Differences

- . Ordinances
- . Request for Proposals
- . Evaluation
- . Selection
- . Negotiation of Franchise Agreement

 Cambridge Systematics, Inc. / Miller, Caulfield, Padgett and Stone

Differences Among Franchise Agreements

- . Length of the Franchise Term
- Amount of Franchise Fees
- . Non-Revenue Generating Equipment and Services
- Advanced Technology and Services

 Cambridge Systematics, Inc. / Miller, Caulfield, Padgett and Stone

Cellular Franchising/Licensing

 Cambridge Systematics, Inc. / Miller, Caulfield, Padgett and Stone

Rationale and Evolution of Cellular Licensing

- . Regulated duopoly
- MSA and RSA Licensing of Markets
- . Licenses set aside for local telephone companies
- . Lottery system for licenses
- Analog communications standard

 Cambridge Systematics, Inc. / Miller, Caulfield, Fiddick and Stone


Rationale and Evolution of Cellular Licensing **(cont.)**

- . Construction requirements
- . License renewals
- Restrictions on the sale of licenses

 Cambridge Systematics, Inc. / Miller, Caulfield, Fiddick and Stone

Other Cellular Licensing Issues

- . Differences among cellular licenses
- . Problems in the licensing process
- Non-legislative actions to correct problems

 Cambridge Systematics, Inc. / Miller, Caulfield, Fiddick and Stone

California Toll Road Franchises

- . Historical Development
- Legal and Institutional Problems
 - Legislation
 - Selection Process
 - * Financing
 - Challenges to selections

 Cambridge Systematics, Inc. / Miller, Canfield, Paddock and Stone

Elements of Toll Road Franchise Agreements

- Franchise terms
 - Grant of Franchise
 - Exclusivity of Rights
 - Franchise Fees
 - Lease and Extension Options
 - Terms of Agreement
 - Reports
 - Opinion of Caltrans Chief Counsel

 Cambridge Systematics, Inc. / Miller, Canfield, Paddock and Stone

Elements of Toll Road Franchise Agreements (cont.)

- Franchises Property
- . Private Transportation Project Implementation
- . Modifications
- . Operations and Maintenance
- Finance

 Cambridge Systematics, Inc. / Miller, Canfield, Paddock and Stone

Conclusions and Recommendations

Number of franchises or licenses in service area
is critical

- Analyze service areas and markets
 - Determine presence of monopoly characteristics of proposed services.
 - Determine level of service required
- . Determine likelihood and desirability of technological change

Competitive bidding desirable, except there are
side effects

- Need to develop numerous test beds
- . Do not be misguided by unproven and unavailable technology
- . Agencies undertaking procurements need to avoid over-promising of bidders



Equipment standardization can be highly beneficial

- Choice between rapid deployment due to equipment standardization versus more diversified and innovative technological development
- Some degree of compatibility is required regardless of technology standardization

The franchise fee depends on a number of factors

- Policymakers need to determine whether franchise fees will be a revenue source
- Need to determine if there will be a franchise fee for access to rights-of-way
- Need to determine whether administration costs will be paid through public or private funds

Special attention needs to be given to technological innovation

- Requirements for maintaining state-of-the-art technology
- Equitable provisions for recovery of additional investment costs

State or federal authorizing legislation may be needed

- IVHS policy makers need to establish formal dialogue with relevant legislators
- Formulate parameters of needed legislation
- . Discuss with experts, legislators, stakeholders, academicians, etc..

 Cambridge Systematics, Inc./MITer, Concord, Portland and Stree

RFP must be artfully written document and result in a "bankable" agreement

- . Follow letter and Intent of enabling legislation
- Provide flexibility in negotiations
- . Prepare for likely challenges to process and awards

 Cambridge Systematics, Inc./MITer, Concord, Portland and Stree

11 11 11

Policy Framework for Model Franchise Agreements

 Cambridge Systematics, Inc./MITer, Concord, Portland and Stree

MODULAR FRANCHISE AGREEMENT

 Cambridge Systematics, Inc. / Miller, Canfield, Padgett and Stone

*Task F Report
Model Franchise Agreements
for ATMS and ATIS*

 Cambridge Systematics, Inc. / Miller, Canfield, Padgett and Stone

*MODEL FRANCHISE AGREEMENT
FOR ATMS/ATIS*

 Cambridge Systematics, Inc. / Miller, Canfield, Padgett and Stone

Key Definitions

- . ATMS System
- . ATIS Service
 - ATMS Service
 - Basic ATIS Service
- Franchise

 Cambridge Systematics, Inc. / Miller, Cauley, Padgett and Stone

Key Definitions (Cont.)

- . Franchisor
 - Gross Revenues

 Cambridge Systematics, Inc. / Miller, Cauley, Padgett and Stone

Grant of Franchise

- . Franchise grant confers right to construct, operate and maintain ATMS System and provide services specified in the franchise
- . Specifies geographic extent and term of franchise
- . Addresses such issues as exclusivity of franchise and authority to alter terms or impose additional obligations

 Cambridge Systematics, Inc. / Miller, Cauley, Padgett and Stone

Compensation and Revenues

- . Compensation paid to franchising authority, nature of revenues, and disposition of revenues depend on project economics
- . Five modules available:
 - . Module A - Pure Public Good
 - . Module B - Partial Public Good
 - . Module C - Project Breaks Even
 - . Module D - Operations Profitable
 - . Module E - Project Profitable

 Cambridge Systematics, Inc. / Miller, Confield, Padgett and Stone

Compensation and Revenues Under Module A Pure Public Good

- Base franchise fee -franchisee pays nominal fee (\$5.00) for right to use rights-of-way
- Franchisee designs and builds system and franchisor reimburses all costs and pays compensation for design and construction services provided by franchisee
- Franchisee operates and maintains system and franchisor reimburses Franchisee in accordance with preapproved budget
- Franchisor entitled to all revenues earned by the system

 Cambridge Systematics, Inc. / Miller, Confield, Padgett and Stone

Compensation and Revenues Under Module B: Partial Public Good

- Franchisee again pays nominal franchise fee
- . Franchisee designs and builds system and is reimbursed and/or compensated
- . Franchisee operates and maintains system
- . Franchisee ~~retains~~ Gross Revenues as compensation for operating and maintaining system. up to agreed limit; any excess goes to Franchisor any deficit is made up by Franchisor

 Cambridge Systematics, Inc. / Miller, Confield, Padgett and Stone

*Compensation and Revenues Under
Module C: Project Breaks Even*

- Bare franchise fee can be eliminated if desired
- Franchise responsible for design, construction, operation and maintenance of system
- Unless otherwise agreed, Franchisee retains Gross Revenues and Franchisor supplements Gross Revenues if they do not equal costs plus agreed-upon profit

 Cambridge Systematics, Inc. / Biller, Canfield, Padgett and Stone

*Compensation and Revenue Under
Module D: Operations Profitable*

- Base franchise fee may be deleted entirely, or increased, depending on economics of project and amount of "Additional Franchise Fee"
- Franchisee responsible for design and construction and compensated for costs and services based on agreed-upon construction budget
- Franchisee retains Gross Revenues

 Cambridge Systematics, Inc. / Biller, Canfield, Padgett and Stone

*Compensation and Revenues Under
Module D: Operations Profitable (Cont.)*

- Franchisee pays Additional Franchise Fee, Model states 5% of Gross Revenues, but amount and basis can vary depending on project economics
- Additional provisions address time and method of payment, late fees, and Franchisor's right to audit books

 Cambridge Systematics, Inc. / Biller, Canfield, Padgett and Stone

Compensation and Revenues Under Models E: Project Profitable

- . Base franchise fee may be deleted or modified
- . Franchisee bears all costs of design, construction, operation and maintenance; no construction budget required
- Franchisee retains Gross Revenues
- Franchisee pays Additional Franchise Fee
- Additional terms re: payments and audit

 Cambridge Systematics, Inc./Miller, Caulfield, Padgett and Stone

Design and Construction Provisions

- . Parties will agree on Construction Plan. Franchisee may be responsible for all aspects, from design through construction, or Franchisor may handle design separately
- Equivalent of a contract to design and build the system: must address all relevant issues in substantial detail

 Cambridge Systematics, Inc./Miller, Caulfield, Padgett and Stone

Design and Construction Provisions (Cont.)

- . Among Issues addressed are:
 - construction schedule.
 - compliance with Construction Plan.
 - construction procedures and standards, including compliance with applicable laws and ordinances.
 - area to be served by system, and
 - types and frequency of tests during construction

 Cambridge Systematics, Inc./Miller, Caulfield, Padgett and Stone

Operations and Maintenance

- Model contemplates that parties will agree on detailed operations plan each year
- Operations plan will address such issues as:
 - Operations and maintenance procedures and standards
 - Consideration of life cycle costs
 - Qualifications of maintenance personnel
 - Provisions for ensuring adequate funding and availability of equipment and material

 Cambridge Systematics, Inc. / Miller, Cantrell, Padgett and Stone

Operations and Maintenance (Cont.)

- . Under Modules A through C, parties will agree on Annual Operating Budget
- . Under Modules D and E, Franchisee will prepare and deliver Annual Operating Budget
- . Module provides for periodic performance tests
- System must be capable of Interconnection with other systems
- Franchisee is obligated to upgrade system to keep up with changes in technology, and to provide biennial reports on state of technology

 Cambridge Systematics, Inc. / Miller, Cantrell, Padgett and Stone

System Facilities Equipment and Services

- . Addresses services to be provided under each Module and Service Option

 Cambridge Systematics, Inc. / Miller, Cantrell, Padgett and Stone

*System Facilities Equipment and Services
Under Module A: Pure Public Good*

- Module A may Include two service options:
 - Service Option I: ATMS Free
 - Service Option II: Basic ATIS
- . Under Service Option I, Franchisee provides ATMS Service only
- . Under Service Option II, Franchisee provides ATMS Service and also provides Basic ATIS Service at no cost

 Cambridge Systematics, Inc. / Miller, Canfield, Padgett and Stone

*System Facilities: Equipment and Services
Under Module A: Pure Public Good (Cont.)*

- . Franchisee also provides other ITS services if agree on terms with Franchisor
- Franchisor receives all services and data at no cost. and retains all rights in data
- Module may provide for Electronic Toll Collection under either service option

 Cambridge Systematics, Inc. / Miller, Canfield, Padgett and Stone

.....

*System Facilities Equipment and Services
Under Module B: Partial Public Good*

- Module B may include any of three service options:
 - Service Option III: ATMS plus data
 - Service Option IV: Sale of ATIS
 - Service Option V: ATIS and data

 Cambridge Systematics, Inc. / Miller, Canfield, Padgett and Stone

*System Facilities Equipment Services
Under Module B: Partial Public Good (Cont.)*

- . Service Option III: Franchisee provides ATMS service free, and has authority to sell ATMS data to third parties at negotiated rates
- Service Option IV: Franchisee provides ATMS service free, and ATIS service at rates set in the Annual Operating Budget
- . Service Option V: Franchisee provides ATMS service free and ATIS service as in Service Option IV, and has authority to sell ATMS data to third parties at negotiated rates

 Cambridge Systematics, Inc. / Miller, Crawford, Padgett and Stone

*System Facilities, Equipment and Services
Under Module B: Partial Public Good (Cont.)*

- . Franchisee may also provide other ITS Services if agree on terms with Franchisor
- Franchisor received all services and data at no cost, and retains all rights to data
- Module may provide for Electronic Toll Collection

 Cambridge Systematics, Inc. / Miller, Crawford, Padgett and Stone

*System Facilities, Equipment and Services
Under Module C: Project Breaks Even*

- . Module C may include Service Options III, IV or V
- . Module C is the same as Module B, except that Franchisor has the authority to approve rates for sale of ATMS data

 Cambridge Systematics, Inc. / Miller, Crawford, Padgett and Stone

*System Facilities, Equipment and Services
Under Module D: Operations Profitable*

- Module D may Include Service Options III, IV or V
- Module D is the same as Module C, except:
 - rates for ATIS are not set in Annual Operating Budget but by Franchisee, subject to Franchisor's right to review and regulate them
 - Franchisee retains all rights in data, not Franchisor

 Cambridge Systematics, Inc. / 1111st, Concord, Paducah and Stowe

*System Facilities Equipment and Services
Under Module E: Project Profitable*

- Module E may Include Service Options III, IV or V
- Module E is the same as Module D, except that Franchisee has the additional obligation of providing certain traffic management and control equipment to the Franchisor

 Cambridge Systematics, Inc. / 1111st, Concord, Paducah and Stowe

Recordkeeping and Reporting Provisions

- Franchisor has right to inspect Franchisee's books and records
- Franchisee must maintain separate financial records on its operations in the Franchise Area
- Franchisee has obligation to provide Franchisor copies of reports and other communications with regulating agencies

 Cambridge Systematics, Inc. / 1111st, Concord, Paducah and Stowe

Recordkeeping and Reporting Provisions (Cont.)

- . Franchisee must submit periodic reports:
 - Annual report on operations and finances
 - Annual plant survey report
 - Monthly construction reports
 - Quarterly outage reports
 - Reports an technical tests

 Cambridge Dynamics, Inc. / 101101, Cambridge, Portland and Sioux

Other Provisions

- Section 9. Insurance: Surety; Indemnification
 - Must meet insurance coverage requirements
- . Section 9. Performance Guarantees and Remedies
 - Must post performance bond
- . Section 10. Application for Renewal or Modification of a Franchise
 - Establishes filing fees

 Cambridge Dynamics, Inc. / 101101, Cambridge, Portland and Sioux

Other Provisions (Cont.)

- . Section II. Transfers
 - Franchisor must approve any transfer
- Section 12 Miscellaneous provisions

 Cambridge Dynamics, Inc. / 101101, Cambridge, Portland and Sioux

ADVANCED TRAVELER INFORMATION SYSTEM

MOOEL FRANCHISE AGREEMENT

 Cambridge Systematics, Inc. / 200 West, Confield, Fiddlers and Stone

Key Definitions

- ATIS Services
- ATIS System

 Cambridge Systematics, Inc. / 200 West, Confield, Fiddlers and Stone

Grant of Franchise

- Unlike ATMS franchise, it may be feasible for individual jurisdictions to grant ATIS franchise. Model assumes that the same multi-jurisdictional body will be responsible for both ATIS and ATMS franchises
- Franchise grant confers right to construct, operate and maintain an ATIS System for the sole purpose of providing ATIS Service

 Cambridge Systematics, Inc. / 200 West, Confield, Fiddlers and Stone

Franchise Fee

- Note that this section is entitled "Franchise Fee" and not "Compensation and Revenues"
- Compensation structure is much simpler than that of ATMS franchise – no Modules or Service Options Involved
- Franchisee pays franchise fee calculated as a percentage of Gross Revenues
 - Franchise fee set at 6% In model – this must be negotiated and will vary depending on economics of project

 Cambridge Systematics, Inc. / Miller, Condit, Padgett and Stone

Design and Construction Provisions

- Similar to ATMS franchise
- Parties will agree an Construction Plan, which will become part of the franchise

 Cambridge Systematics, Inc. / Miller, Condit, Padgett and Stone

Operations and Maintenance

- Establishes maintenance standards and practices
- Establishes testing requirements
- Addresses continuity of service, Interconnections, and Interoperability
- Unlike ATMS franchise, there is no requirement for an Annual Operations Plan or an Annual Operating Budget

 Cambridge Systematics, Inc. / Miller, Condit, Padgett and Stone

System Facilities, Equipment and Services

- Unlike ATMS franchise, Modules and Service Options are not included
- . Franchisee simply required to provide ATIS Service to “all businesses, residents and travelers in the Franchise Area at reasonable rates”
- . As with ATMS franchise, parties may agree on terms for provision of other ITS Services

 Cambridge Systematics, Inc./NHWet, Chaffield, Padlock and Stone


Other Provisions

- . Essentially the same as ATMS franchise:
 - Section 7 Recordkeeping and Reporting Provisions
 - Section 8 Insurance: Surety; Indemnification
 - Section 9 Performance Guarantees and Remedies

 Cambridge Systematics, Inc./NHWet, Chaffield, Padlock and Stone

Other Provisions (Cont.)

- Section 10. Application for Renewal or Modification of a Franchise
- Section 11 Transfers
- Section 12 Miscellaneous provisions

 Cambridge Systematics, Inc./NHWet, Chaffield, Padlock and Stone

APPROACH TO FINAL REPORT AND GENERAL DISCUSSION

 Cambridge Systematics, Inc. / Miller, Confield, Padgett and Stone

FINAL REPORT OUTLINE

- Executive Summary
 - Likely phases of deployment
 - Requirements for deployment by phase
 - Most conducive models
 - Challenges
 - Steps to Deployment
- Chapter 1: Overview of Deployment Barriers
 - Highlights from Task A Report
 - **Corroborating** and complementary material from related studies

 Cambridge Systematics, Inc. / Miller, Confield, Padgett and Stone

Final Report Outline (Cont.)

- Chapter 2: Lessons from Other Technologies
 - Highlights from Task B Report
 - Summarize lessons in table form
 - **Discuss** importance of role of model franchise agreement in Cable N Industry
- Chapter 3: Models of ATMS/ATIS deployment
 - Key issues (cost recovery, monopoly vs. competition, access to rights-of-way)
 - Definitions of key models and specific examples of each
 - Most conducive models by phase of deployment

 Cambridge Systematics, Inc. / Miller, Confield, Padgett and Stone

Final Report Outline (Cont.)

- Chapter 4: Franchising, Access to Public Rights-of-way and Competition
 - Home rule and local/private control
 - Alternative approaches to using public-rights-of-way with examples
 - Summary of model franchise agreement (7 pager)
 - Franchising and competitive joint ventures with examples
 - Revenue sources and financing
 - Institutional barriers and steps to overcome them

 Cambridge Systematics, Inc. / Miller, Cauffield, Padgett and Stone

DISCUSSION ISSUES

 Cambridge Systematics, Inc. / Miller, Cauffield, Padgett and Stone

Requirements for Full Deployment

- Nearly all jurisdictions served by ATMS in a manner that preserves local control unless they voluntarily cede it to higher authority
- All forms of traveler information available in all jurisdictions for trip planning and people on the move
- Traffic Operation Center deployed with back up
- Mutual leveraging of public and private funds
- 90 percent cost recovery reflecting 90/10 private/public split

 Cambridge Systematics, Inc. / Miller, Cauffield, Padgett and Stone

Alternative Approaches to Using Public Rights-of-Way

- Easements
- . Permits
- Franchises
- Concessions
- . Leases
- Grants-of-title

 Cambridge Systematics, Inc. / Miller, Canfield, Faddock and Stone

Alternative Approaches to Gaining Access to Traffic Data

- Private provision
- Government contracting
- Licensing
- Free Distribution
- . Sale

 Cambridge Systematics, Inc. / Miller, Canfield, Faddock and Stone


Alternative approaches to generating revenue stream/covering costs

- Selling of Services
- Contracting for services (tax revenue.)
- Advertising sponsors
- Selling dark fiber
- Auctions
- Electronic toll collection

 Cambridge Systematics, Inc. / Miller, Canfield, Faddock and Stone

Most Desirable Models by Phase of Deployment

- Phase I: Pre-System Architecture/Early Deployment
 - Government Contracting
 - . Private Provision
- Phase II: Post System Architecture – Near Term
 - Government Contracting
 - Private Provision
 - Uncoordinated Experimentation with various models
- Phase III: Post System Architecture -Long Term

 Cambridge Systematics, Inc. / MITer, Concord, Portland and Stree

Recommended End-state: Competitive Joint Venture

- Integration of monopoly and competitive provision
- . Incorporation of franchising and other methods for access to public rights-of-way
- Integration of ATMS and ATIS
- Public/private provision
- Partial or complete cost recovery

 Cambridge Systematics, Inc. / MITer, Concord, Portland and Stree

Recommended End-state: Competitive Joint Venture (Cont.)

- Framework for expansion/annexation
- TOC built with public and private funds
- Privately or publicly managed ATIS data base and telecommunications

 Cambridge Systematics, Inc. / MITer, Concord, Portland and Stree

Alternative End State - #1

- ATMS deployed mainly through government contracting
 - ATMS traffic data is free
- Private or publicly built and managed ATIS data base and telecommunications
- Private sector provides value-added ATIS
 - As much ATMS deployment as taxpayers willing to pay

 Cambridge Systematics, Inc./DBOT, Conhold, Padlock and Status

Alternative End State - #2

- ATMS deployed mainly through government contracting
- Government licenses use of traffic data or makes it free depending upon jurisdiction involved
- Privately or publicly built and managed ATIS data base and telecommunications
- Private sector provides value-added ATIS

 Cambridge Systematics, Inc./DBOT, Conhold, Padlock and Status

Alternative End State #3

- Government contracts with private sector to DBOT or DBTO a TOC and basic ATIS
 - Government mainly contracts for rest of ATMS
 - Private sector provides value-added ATIS.
-

Recommended End-State Electric Utility Model

- Define service areas
- Minimize sum of capital, operating, and maintenance costs
- Reduce demands through load and demand management
- Role of Public Utility Commission or equivalent in State Transportation Agency
- Integration of energy, environmental and management